



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,277	07/14/2003	Jung Kook Park	CU-3292 RJS	6323
26530	7590	10/04/2005	EXAMINER	
<b>LADAS &amp; PARRY LLP</b> 224 SOUTH MICHIGAN AVENUE SUITE 1600 CHICAGO, IL 60604				HOLTON, STEVEN E
		ART UNIT		PAPER NUMBER
				2673

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/619,277	PARK ET AL.
	Examiner Steven E. Holton	Art Unit 2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 14 July 2003.  
 2a) This action is FINAL. 2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-7 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-7 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 14 July 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Specification***

2. The disclosure is objected to because of the following informalities:  
Page 9, line 15, the term Dn should be Dn-1 because the reference is being made to previous input data, not current input data.  
Appropriate correction is required.

### ***Claim Objections***

3. Claims 1,5,6, and 7 are objected to because of the following informalities: the term name "free-charge data". The Examiner notes that typically 'free-charge' is associated with unattached electrical charges, such as free electrons and ions within the atmosphere (Scientific American.com article by Carlson, page 2, line 2). The usage of the term as part of the claims and specification is one chosen by the applicant, but is confusing considering the 'free-charge data' used within the current invention does not

deal with measurement of unattached electrons and ions within the display device. The Examiner recommends choosing a different terminology to name the 'free-charge data' to avoid confusion as to the meaning. The Examiner also notes that a specific definition of 'free-charge data' is not distinctly laid out within the specification.

Claim 1 is further objected to due to the phrase "with a value approximating to original gray scale data (lines 18-19)". The Examiner notes that most likely the phrase should read, "with a value approximating the original gray scale data", similar to the phrase used in claim 6.

Claims 1 and 6 possess the limitation "calculating a mean value based on the corrected present input data and the corrected previous input data, replacing the calculated mean value with a value approximating to(the) original gray scale data". The Examiner notes that this seems like a wasted calculation. The specification teaches that the mean value is converted by adding further values to the calculated value and then rounding is done (page 8, lines 20-22). Whereas, the phrasing of the claim can suggest that the calculated mean value is of no use because it is replaced with a different value. Thus, one would be lead to question why a mean value would need to be calculated, because it is immediately replaced with what appears to be a different and unassociated value. The Examiner recommends rewording this phrase to better show the association between the calculated mean value and the value it is replaced by as shown in the disclosure.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites the limitation “a look-up table for storing corrected present input data and corrected previous input data, each of which corresponds to the present input data and the previous input data (lines 7-9)”; however, this limitation is not enabled by the disclosure. The Examiner notes that the disclosure recites the look-up table “is provided with preset 64 gray scale analog voltages (page 7, lines 5-6)” and the summary of the invention does mention “a look-up table for storing corrected present input data and corrected previous input data (page 4, lines 2-4)”. However, there is no discussion of storing the corrected input data within the detailed description of the invention. Rather, the corrected data is generated, averaged together and then used to generate the ‘free-charge data’. No mention of storing the corrected present or previous data is mentioned within the detailed description. Therefore, one skilled in the art would wonder not know when to store the information in the look-up table. Further, look-up tables are commonly used to provide previously calculated answers to equations, such as mentioned with the control unit being used to convert data (page 7, lines 17-21).

Thus, the specification is not enabling to the mention of storing corrected data within a look-up table, but rather that the corrected data is generated with respect to the look-up table and not stored within the device, but used directly to generate further information. The Examiner notes that because claims 2-5 are dependent on claim 1 they possess all of the limitations of claim 1 and therefore are also rejected under 35 USC 112, 1<sup>st</sup> paragraph.

Regarding claims 6 and 7 these are rejected for much the same reasons as claims 1-5. Claim 6 states "a look-up table, in which the look-up table has a plurality of analog voltages corresponding to a plurality of gray scale data." The Examiner notes that the disclosure recites the look-up table "is provided with preset 64 gray scale analog voltages each of which corresponds to present input data Dn in a one-to-one mode (page 7, lines 5-7.)" Again this definition of the device is different from the one taught in the specification and therefore claims 6 and 7 are also rejected under 35 USC 112, 1<sup>st</sup> paragraph.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 6 provide an apparatus and method of operation with similar limitations. Claim 6 states "storing present input data at a data storage unit; reading out

the present input data stored at the data storage unit as previous input data;” and then the method converts the data and calculates a mathematical average of the two numbers. Claim 1 similar recites, “a data storing means for storing present input data and outputting the stored present input data as previous input data”. The claim limitations can be interpreted as meaning that the present data is stored, then immediately read back out of the memory and the same set of data is used as both present and previous for the calculations and change made to the signals to drive the display. Such a method would seem to be useless because the average of the same data would always be zero resulting on no net change of the signals. Or, the language could be interpreted to mean that previously stored present data (data from a previous frame that was once called present data) is read out and the comparison and calculations are performed on the two different sets of data. The Examiner believes that the second interpretation is the one intended by the disclosed invention, but that the phrasing of the claim language can be read and interpreted in either way, thus making claims 1 and 6 and their dependent claims indistinct and indefinite.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hartman et al. (USPN: 5945265) discloses comparing previous and current data levels, but not averaging them together.

Larkin et al. (USPN: 6466225) discloses averages of current data values, but not comparison with previous images.

Lee (USPgPub: 2003/0098839) discloses averaging current data levels, but does not discuss using previous image data to be used as part of the calculations.

Someya et al. (USPgPub: 2003/0231158) discloses using previous and current images to correct images for better viewing, but does not discuss an average of the previous and current image values.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571) 272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven E. Holton  
September 23, 2005  
Art Unit 2673



VIJAY SHANKAR  
PRIMARY EXAMINER